

200312102-1

10/789,963

IN THE CLAIMS:

Please amend the claims as follows:

1. (previously presented) A method of making a microporous ink receptive coating comprising:
a fusible latex for coating a substrate, wherein said fusible latex includes a hard core material and a soft shell material;
wherein said latex exhibits self-adhesive properties at a system operation temperature.
2. (previously presented) The method of claim 1, wherein said latex is for forming an ink permeable microporous layer when coated on said substrate.
3. (previously presented) The method of claim 2, wherein said latex is for forming a continuous transparent film by the application of thermal energy or pressure.
4. (previously presented) The method of claim 3, wherein said hard core material exhibits a glass transition temperature above 80 degrees Celsius and said soft shell material exhibits a glass transition temperature below 70 degrees Celsius.
5. (previously presented) The method of claim 4, wherein said hard core material comprises one of poly(methylmethacrylate), poly(styrene), poly(tert-butylstyrene), poly(p-methylstyrene), poly(t-butylacrylamide), poly(styrene-co-methylmethacrylate), poly(styrene-co-t-butylacrylamide), poly(methylmethacrylate-co-t-butylacrylamide), or homopolymers derived from tert-butyl methacrylate, p-cyanophenyl methacrylate, pentachlorophenyl acrylate, methacrylonitrile, isobornyl methacrylate, phenyl methacrylate, acrylonitrile, isobornyl acrylate, p-cyanophenyl acrylate, 2-chloroethyl acrylate, 2-chloroethyl methacrylate, 2-naphthyl acrylate, n-isopropyl acrylamide, 1-fluoromethyl methacrylate, isopropyl methacrylate, or 2-hydroxypropyl methacrylate.
6. (previously presented) The method of claim 4, wherein said soft shell material comprises one of a homo- or copolymer derived from n-butyl acrylate, n-ethylacrylate, 2-

200312102-1

10/789,963

ethylhexylacrylate, methoxyethylacrylate, methoxyethoxy-ethylacrylate, ethoxyethylacrylate, ethoxyethoxyethylacrylate, 2-ethylhexyl-methacrylate, n-propylacrylate, hydroxyethylacrylate, tetrahydrofurfuryl acrylate, cyclohexylacrylate, iso-decylacrylate, n-decylmethacrylate, n-propylacrylate, vinylacetate, 2-(N,N-Dimethylamino)ethyl methacrylate, 2-N-Morpholinoethyl acrylate, or 3-Dimethylaminoneopentyl acrylate.

7. (previously presented) The method of claim 4, wherein said soft shell material comprises a cationic monomer or a salt of a cationic monomer.

8. (previously presented) The method of claim 7, wherein said soft shell material comprises one of poly(n-butyl acrylate co-trimethylammoniummethyl acrylate), poly(2-ethylhexyl acrylate co-trimethylammoniummethyl acrylate) poly(methoxyethylacrylate co-trimethylammoniummethyl acrylate), poly(ethoxy-ethylacrylate co-trimethylammoniummethyl acrylate), poly(n-butylacrylate-co-trimethylammoniummethyl acrylate), poly(n-butylacrylate-co-trimethylammoniummethyl methacrylate), poly(n-butylacrylate-co-vinylbenzyltrimethylammonium chloride), poly (n-ethylhexylacrylate-co-2-hydroxyethylacrylate co-trimethylammoniummethyl acrylate), poly (n-butylacrylate-co-2-hydroxyethylacrylate co-trimethylammoniummethyl acrylate), poly(n-ethylhexylacrylate -co-vinylbenzyltrimethylammonium chloride), poly(n-methoxyethylacrylate -co-vinylbenzyltrimethylammonium chloride), or poly(n-ethoxyethylacrylate -co-vinylbenzyltrimethylammonium chloride).

9. (previously presented) The method of claim 4, wherein said latex further comprises a coalescing agent.

10. (currently amended) The method of claim 9, wherein said coalescing agent comprises one of ethylene glycol, propylene glycol, hexylene glycol, ester of ethylene glycol, propylene glycol, hexylene glycol, 2-butoxyethanol, 2,2,4-trimethylpentane diol monoisobutyrate, diisobutyl esters of a mixture of diacids, Rhodiasolve DIB (by Rhodia Chemical), butyl cellulose, 2-(2-butoxyethoxy)ethanol, 2-butoxyethanol, ~~TEXANOL (Eastman Chemical), diisobutyl succinate, diisobutyl glutarate, diisobutyl adipate, SER AD FX 510 (Sasol Chemical), or SER AD FX 511 (Sasol Chemical).~~

200312102-1

10/789,963

11-47. (cancelled)

48. (currently amended) A microporous coating comprising:

a first microporous layer comprising a first binder; and

a fusible latex layer deposited over said first microporous layer, wherein said fusible latex layer is microporous and includes particles comprising a hard core material and a soft shell material;

wherein said latex exhibits self-adhesive properties at a room temperature such that said latex layer remains in place on said first microporous layer without requiring a second binder and without being fused.

49. (currently amended) The microporous coating of claim 48, wherein said latex

layer is for forming an ink permeable and permits the transmission of ink through said latex layer to said first microporous layer prior to said fusible latex layer being fused.

50. (cancelled)

51. (currently amended) The microporous coating of claim 49, wherein, after a

printing process in which ink has passed through said latex layer, said latex is for forming a fused, continuous transparent film by the application of thermal energy or pressure.

52. (original) The microporous coating of claim 51, wherein said hard core

material exhibits a glass transition temperature above 80 degrees Celsius and said soft shell material exhibits a glass transition temperature below 70 degrees Celsius.

53. (original) The microporous coating of claim 52, wherein said hard core

material comprises one of poly(methylmethacrylate), poly(styrene), poly(p-methylstyrene), poly(t-butylacrylamide), poly(styrene-co-methylmethacrylate), poly(styrene-co-t-butylacrylamide), poly(methylmethacrylate-co-t-butylacrylamide), or homopolymers derived from p-cyanophenyl methacrylate, pentachlorophenyl acrylate, methacrylonitrile, isobornyl methacrylate, phenyl methacrylate, acrylonitrile, isobornyl acrylate, p-cyanophenyl acrylate, 2-chloroethyl acrylate, 2-chloroethyl methacrylate, 2-naphthyl acrylate, n-isopropyl

200312102-1

10/789,963

acrylamide, 1-fluoromethyl methacrylate, isopropyl methacrylate, or 2-hydroxypropyl methacrylate.

54. (currently amended) A microporous coating comprising:
a fusible latex, wherein said fusible latex includes particles comprising a hard core
material and a soft shell material;

~~The microporous coating of claim 52, wherein said soft shell material comprises one of a homo- or copolymer derived from n-butyl acrylate, n-ethylacrylate, 2-ethylhexylacrylate, methoxyethylacrylate, methoxyethoxyethylacrylate, ethoxyethylacrylate, ethoxyethoxyethylacrylate, 2-ethylhexyl methacrylate, n-propylacrylate, hydroxyethylacrylate, tetrahydrofurfuryl acrylate, cyclohexylacrylate, iso-decylacrylate, n-decylmethacrylate, n-propylacrylate, vinylacetate, 2-(N,N-Dimethylamino)ethyl methacrylate, 2-N-Morpholinoethyl acrylate, or 3-Dimethylaminoneopentyl acrylate.~~

55. (original) The microporous coating of claim 52, wherein said soft shell material comprises a cationic monomer or a salt of a cationic monomer.

56. (original) The microporous coating of claim 55, wherein said soft shell material comprises one of poly(n-butyl acrylate co-trimethylammoniummethyl acrylate), poly(2-ethylhexyl acrylate co-trimethylammoniummethyl acrylate) poly(methoxyethylacrylate co-trimethylammoniummethyl acrylate), poly(ethoxy-ethylacrylate co-trimethylammoniummethyl acrylate), poly(n-butylacrylate-co-trimethylammoniummethyl acrylate), poly(n-butylacrylate-co-trimethylammoniummethyl methacrylate), poly(n-butylacrylate-co-vinylbenzyltrimethylammonium chloride), poly (n-ethylhexylacrylate-co-2-hydroxyethylacrylate co-trimethylammoniummethyl acrylate), poly (n-butylacrylate-co-2-hydroxyethylacrylate co-trimethylammoniummethyl acrylate), poly(n-ethylhexylacrylate -co-vinylbenzyltrimethylammonium chloride), poly(n-methoxyethylacrylate -co-vinylbenzyltrimethylammonium chloride), or poly(n-ethoxyethylacrylate -co-vinylbenzyltrimethylammonium chloride).

57. (original) The microporous coating of claim 49, wherein said latex further comprises a coalescing agent.

200312102-1

10/789,963

58. (currently amended) The microporous coating of claim 57, wherein said coalescing agent comprises one of ethylene glycol, propylene glycol, hexylene glycol, ester of ethylene glycol, propylene glycol, hexylene glycol, 2-butoxyethanol, 2,2,4-trimethylpentane diol monoisobutyrate, diisobutyl esters of a mixture of diacids, ~~Rhodiaolve DIB (by Rhodia Chemical)~~, butyl cellulose, 2-(2-butoxyethoxy)ethanol, 2-butoxyethanol, ~~TEXANOL (Eastman Chemical)~~, diisobutyl succinate, diisobutyl glutarate, diisobutyl adipate, ~~SER AD FX 510 (Sasol Chemical)~~, or ~~SER AD FX 511 (Sasol Chemical)~~.

59-70. (cancelled)

71. (new) The microporous coating of claim 52, wherein said soft shell material comprises one of a homo- or copolymer derived from n-butyl acrylate, n-ethylacrylate, 2-ethylhexylacrylate, methoxyethylacrylate, methoxyethoxy-ethylacrylate, ethoxyethylacrylate, ethoxyethoxyethylacrylate, 2-ethylhexyl-methacrylate, n-propylacrylate, hydroxyethylacrylate, tetrahydrofurfuryl acrylate, cyclohexylacrylate, iso-decylacrylate, n-decylmethacrylate, n-propylacrylate, vinylacetate, 2-(N,N-Dimethylamino)ethyl methacrylate, 2-N-Morpholinoethyl acrylate, or 3-Dimethylaminoneopentyl acrylate.

72. (new) The microporous coating of claim 52, wherein said soft shell material comprises one of tetrahydrofurfuryl acrylate, cyclohexylacrylate, iso-decylacrylate, n-decylmethacrylate, vinylacetate, 2-(N,N-Dimethylamino)ethyl methacrylate, 2-N-Morpholinoethyl acrylate, or 3-Dimethylaminoneopentyl acrylate.

73. (new) A microporous coating being used on a print medium, said microporous coating comprising a fusible latex layer, wherein said fusible latex layer is microporous and includes particles comprising a hard core material and a soft shell material, wherein said latex layer exhibits self-adhesive properties at a room temperature such that said latex layer remains in place on said print medium without requiring use of a binder and without being fused, wherein said use of said microporous coating on said print medium comprises:

printing an image on said print medium by selectively depositing ink on said fusible latex layer, wherein said ink penetrates said microporous fusible latex layer; and

200312102-1

10/789,963

fusing said latex layer with heat or pressure after said printing such that said latex layer fuses into a continuous film over said printed print medium.

74. (new) The coating used on a print medium of claim 73, further comprising: a first microporous layer comprising a first binder; and said fusible latex layer being deposited over said first microporous layer; wherein said self-adhesive properties of said fusible latex layer at a room temperature cause said latex layer to remain in place on said first microporous layer without requiring a second binder and without being fused.

75. (new) The coating used on a print medium of claim 73, wherein said soft shell material comprises one of a homo- or copolymer derived from n-butyl acrylate, n-ethylacrylate, 2-ethylhexylacrylate, methoxyethylacrylate, methoxyethoxy-ethylacrylate, ethoxyethylacrylate, ethoxyethoxyethylacrylate, 2-ethylhexyl-methacrylate, n-propylacrylate, hydroxyethylacrylate, tetrahydrofurfuryl acrylate, cyclohexylacrylate, iso-decylacrylate, n-decylmethacrylate, n-propylacrylate, vinylacetate, 2-(N,N-Dimethylamino)ethyl methacrylate, 2-N-Morpholinoethyl acrylate, or 3-Dimethylaminoneopentyl acrylate.

76. (new) The coating used on a print medium of claim 73, wherein said soft shell material comprises one of tetrahydrofurfuryl acrylate, cyclohexylacrylate, iso-decylacrylate, n-decylmethacrylate, vinylacetate, 2-(N,N-Dimethylamino)ethyl methacrylate, 2-N-Morpholinoethyl acrylate, or 3-Dimethylaminoneopentyl acrylate.

77. (new) The coating used on a print medium of claim 73, wherein said hard core material comprises one of poly(methylmethacrylate), poly(styrene), poly(p-methylstyrene), poly(t-butylacrylamide), poly(styrene-co-methylmethacrylate), poly(styrene-co-t-butylacrylamide), poly(methylmethacrylate-co-t-butylacrylamide), or homopolymers derived from p-cyanophenyl methacrylate, pentachlorophenyl acrylate, methacrylonitrile, isobornyl methacrylate, phenyl methacrylate, acrylonitrile, isobornyl acrylate, p-cyanophenyl acrylate, 2-chloroethyl acrylate, 2-chloroethyl methacrylate, 2-naphthyl acrylate, n-isopropyl acrylamide, 1-fluoromethyl methacrylate, isopropyl methacrylate, or 2-hydroxypropyl methacrylate.

200312102-1

10/789,963

78. (new) The method of claim 1, further comprising:

depositing a microporous ink-receiving layer on a print medium by ejecting a fluid onto said print medium that forms said microporous ink-receiving layer; and

depositing said fusible latex coating over said microporous ink-receiving layer on said print medium by ejecting a fluid onto said print medium that forms said fusible latex coating over said microporous ink-receiving layer.

79. (new) The method of claim 1, further comprising forming said coating by

depositing said fusible latex coating over a microporous ink-receiving layer on a print medium, said depositing said fusible latex coating comprising ejecting a fluid onto said print medium that forms said fusible latex coating over said microporous ink-receiving layer.